

Recovery Plan Action Status

Plan Name: Draft Revised Recovery Plan for Hawaiian Waterbirds, Second Draft of Second Revision

Plan Status: Draft Revision 2

Plan Date: 24-Aug-05

Lead Agency: USFWS

Lead Office: Pacific Islands Fish And Wildlife Office

(408)
(792-9400)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1	Protect (secure from development) core (100%) and supporting (at least 25% for downlisting and 75% for delisting) wetlands.	Ongoing Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System	Acquisition, Acquisition: Easement, Acquisition: Management Agreement, Management, Management: Land Use, Management: Planning, Other: Information and Education, Other: Regulations	Internal Administrative, Internal Technical Assistance	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.1	Develop management plans for core and supporting wetlands.	Ongoing Current	FY 2005		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Land Use	Internal Technical Assistance	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.2	Coordinate management of core and supporting wetlands with other agencies and organizations.	Ongoing Current	FY 2005		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning	Internal Administrative, Internal Field Assistance, Internal Technical Assistance	

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Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.3.1	Secure water sources and manage water levels to maximize nesting success, brood survival, food availability, and recruitment of waterbirds.	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System	Acquisition, Management: Habitat Maintenance and Manipulation, Management: Planning	Internal Field Assistance, Internal Technical Assistance	Partners project '07 funding for the removal of feral cattle at Honokane valley, Kohala Mountains will improve water quality in some riparian wetland habitats used by koloa.
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.3.2.1	Encourage desirable plant species.	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.3.2.2	Control undesirable plant species.	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Habitat Maintenance and Manipulation, Management: Planning	Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.3.2.3	Prevent introduction of invasive non-native plants.	Ongoing Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Habitat Maintenance and Manipulation, Management: Planning	Internal Field Assistance, Internal Technical Assistance, Species Expert	

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Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.3.3.1	Prevent predator access.	Ongoing Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Depredation Control, Management: Planning, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance	07 funds from Partners project at Ukoa Marsh to fence wetland and prevent ingress of/and remove ungulates and dogs, and control mongoose and rats.
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.3.3.2	Control mongooses.	Ongoing Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Depredation Control, Management: Planning, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	07 funds from Partners project at Ukoa Marsh to fence wetland and prevent ingress of/and remove ungulates and dogs, and control mongoose and rats. Need to update methods.
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.3.3.3	Control feral cats.	Ongoing Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Depredation Control, Management: Planning, Management: Predator and Competitor Control	Internal Field Assistance, Internal Technical Assistance, Species Expert	Need to update methods.
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.3.3.4	Control feral dogs.	Ongoing Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Depredation Control, Management: Planning, Management: Predator and Competitor Control	Internal Field Assistance, Internal Technical Assistance, Species Expert	07 funds from Partners project at Ukoa Marsh to fence wetland and prevent ingress of/and remove ungulates and dogs, and control mongoose and rats.

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Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.3.3.7	Control tilapia.	Not Started			Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Depredation Control, Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian (=koloa) Duck (Anas wyvilliana)	1	1.3.3.8	Control bullfrogs.	Ongoing Current	FY 2005		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Depredation Control, Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	1.3.4	Prevent introduction of new non-native predators such as the brown treesnake (Boiga irregularis).	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture	Management: Depredation Control, Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning, Management: Predator and Competitor Control, Other: Information and Education	Internal Field Assistance, Internal Technical Assistance, Species Expert	

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Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.3.5.2	Control human access to waterbird habitats during breeding seasons.	Ongoing Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System	Acquisition: Easement, Acquisition: Management Agreement, Management: Land Use, Management: Planning	Internal Field Assistance, Internal Technical Assistance, Volunteer	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.3.5.3	Resolve conflicts resulting from actual or preceived depredation by waterbirds on aquaculture and agriculture products by waterbirds.	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System	Other: Information and Education, Other: Regulations	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.3.5.4	Minimize influence of urban encroachment.	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Acquisition, Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning, Other: Information and Education	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	

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Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.3.6.2	Take immediate action to restrict the spread of the disease outbreaks.	Ongoing Current	FY 2005		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Disease Control, Research: Disease	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.3.7.1	Monitor water quality.	Not Started			Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Habitat Maintenance and Manipulation, Research: Environmental Contaminants	Contract, Internal Field Assistance, Internal Technical Assistance	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.3.7.2	Restrict introduction of contaminants to wetland systems.	Not Started			Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Management: Other, Other: Information and Education, Research: Environmental Contaminants	Internal Field Assistance, Internal Technical Assistance, Volunteer	

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Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.4.1	Continue standardized, biannual, statewide surveys for all endangered waterbirds.	Ongoing Current	FY 2006		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Research: Population Surveys	Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.4.2	Continue regular, standardized surveys on core and supporting wetlands.	Ongoing Current	FY 2006		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Research: Population Surveys	Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	
Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana)	2	1.4.3	Develop and improve survey techniques for the Hawaiian duck and Hawaiian common moorhen.	Ongoing Not Current	FY 2000 - FY 2004		U.S. Geological Survey, Biological Resources Division	Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	Hawaiian common moorhen survey techniques were refined by D. DeRoescher from Tuft's Univeristy. Research was conducted at James Campbell National Wildlife Refuge on Oahu. Biannual surveys have not been modified.

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Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.4.4	Monitor reproductive success on core wetlands.	Ongoing Current	FY 2005		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps , United States Navy	Research: Demographic Studies, Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	At USFWS Wildlife Refuges.
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	2	1.4.5	Monitor aquatic invertebrate prey species used by waterbirds and fish to determine whether they compete with waterbirds for aquatic invertebrates.	Discontinued	FY 2005		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System, United States Marine Corps	Research: Competition	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian (=koloa) Duck (Anas wyvilliana)	1	2.1	Conduct public information and awareness program regarding mallard-Hawaiian duck interbreeding problem and the need for the removal program.	Ongoing Current	FY 2005		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System	Other: Information and Education	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian (=koloa) Duck (Anas wyvilliana)	1	2.2	Develop methods for differentiating between Hawaiian ducks and mallard-Hawaiian duck hybrids.	Ongoing Current	FY 2005		U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Genetics, Research: Other Information	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	Key needs additional data to distinguish between female koloa and hybrids. Key will be presented at October Wetlands Workshop in Hawaii 2011.

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Hawaiian (=koloa) Duck (Anas wyvilliana)	1	2.3	Implement statewide program to humanely remove feral mallards and mallard-Hawaiian duck hybrids.	Ongoing Not Current	FY 2005		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control), U.S. Fish and Wildlife Service National Wildlife Refuge System	Management: Depredation Control, Management: Predator and Competitor Control, Other: Information and Education	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	Key for distinguishing male koloa from hybrids ready for testing. Female key needs additional data. Key will be explained at October 2011 Wetlands Workshop, Hawaii.
Hawaiian (=koloa) Duck (Anas wyvilliana)	1	2.4	Ensure new stocks of mallards and closely related ducks are not brought into the State.	Ongoing Not Current	FY 2005		Hawaii Department of Agriculture, Division of Forestry and Wildlife, Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service, U.S. Fish and Wildlife Service, Law Enforcement Division, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control)	Other: Administration, Other: Information and Education, Other: Law Enforcement, Other: Regulations	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian (=koloa) Duck (Anas wyvilliana)	2	2.5.1	Identify sites for reintroduction of the Hawaiian duck on Maui and Molokai.	Ongoing Not Current	FY 2009		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Acquisition, Management: Planning, Management: Reintroduction, Research: Habitat Status, Research: Reintroduction	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	Spent time visiting wetlands on Molokai to assess potential for koloa reintroduction.
Hawaiian (=koloa) Duck (Anas wyvilliana)	2	2.5.2	Investigate captive propagation versus translocation for establishing additional Hawaiian duck populations and develop a reintroduction plan.	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Planning, Management: Reintroduction, Research: Reintroduction	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	May not be necessary - Koloa breeding well on Kauai.

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Hawaiian (=koloa) Duck (Anas wyvilliana)	2	2.5.3	Reintroduce either captive-bred or translocated Hawaiian ducks to a protected and managed sites on Maui and Molokai.	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Acquisition, Management: Planning, Management: Reintroduction, Research: Reintroduction	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	4.1.1	Investigate the effects of different predators on endangered waterbirds.	Ongoing Not Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Predation	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	1	4.1.2	Research improved predator control methods.	Ongoing Not Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control), U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Predation	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	4.1.3	Research improved methods for non-native plant control and restore native plants.	Ongoing Not Current	FY 2007		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Work type not yet selected	Labor type not yet selected	

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Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	4.2.2	Determine carrying capacity of wetland habitats.	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Habitat Status, Research: Other Information, Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	4.2.3	Estimate reproductive parameters.	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Demographic Studies	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	4.2.4	Estimate mortality rates.	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Demographic Studies	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	

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Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	4.2.6	Determine the sex and age structure of populations.	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Demographic Studies	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	4.2.7	Investigate genetic population structure and potential inbreeding depression.	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Genetics	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	4.2.8	Conduct population viability analyses for Hawaiian duck, coot, and common moorhen.	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division	Research: Other Information	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	4.3	Conduct research on habitat needs and habitat manipulation.	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division, U.S. Fish and Wildlife Service National Wildlife Refuge System	Research: Habitat Requirements, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	5.1	Prepare and distribute educational materials.	Ongoing Not Current	FY 2005		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System	Other: Information and Education	Contract, Internal Technical Assistance, Volunteer	Starting to develop outreach materials for koloa, our native duck, and hybridization issue.
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	5.2	Coordinate with the Hawai'i Department of Education and private schools to incorporate waterbird information into school curricula.	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii Department of Education	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance	
Hawaiian stilt (Himantopus mexicanus knudseni), Hawaiian common moorhen (Gallinula chloropus sandvicensis), Hawaiian (=koloa) Duck (Anas wyvilliana), Hawaiian coot (Fulica americana alai)	3	5.3	Develop and maintain interpretive displays of endangered waterbirds and wetlands.	Ongoing Current	FY 2005		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service National Wildlife Refuge System	Other: Information and Education	Contract, Graduate Student, Internal Technical Assistance, Species Expert, Volunteer	